VA Polytrauma System of Care

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Continuity of Care: From Battlefield to VA TBI/Polytrauma System of Care

Nature of OEF/OIF Combat Injuries

- 68% of wounded in action are blast related injuries
- 28% to 31% of troops evacuated to Walter Reed had brain injuries (DVBIC)
- Common wounds of OEF/OIF are mild Traumatic Brain Injury and Post Traumatic Stress Disorder
- Severe, multiple, complex injuries add to the challenge (e.g., amputation, burn, fractures)

New Paradigm of Care

- **Brain injury plus**
- **Brain injury drives the care**
- **Simultaneous treatment of multiple injuries**
- **Higher level of acuity**
- **Sequence and integrate therapies to meet patient's needs**
- **Coordinated team effort with an expanded team of consultants**

VA Definition of Polytrauma

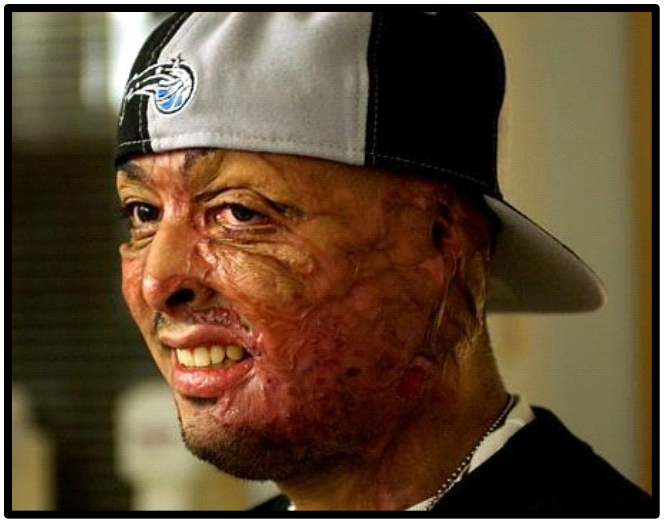
- ***Polytrauma*** **is defined as two or more injuries sustained in the same incident that affect multiple body parts or organ systems and result in physical, cognitive, psychological, and/or psychosocial impairments and functional disabilities.**

- **TBI frequently occurs as part of the polytrauma spectrum in combination with other disabling conditions such as amputations, burns, pain, fractures, auditory and visual impairments**

What Do These Patients Need?

- **They require a closely integrated network of emergent, urgent, surgical, and rehabilitative care across the battlefield, MTF and VHA facilities.**
- **They require seamless transition through the system of care to optimize when and where treatment is received.**
- **They require highly trained clinicians, significant infrastructure and administrative support, and a unified treatment and communication system.**
- **They require comprehensive case management of each individual to make sure they are appropriately and expediently transitions through the systems of care.**

Rebuilding Wounded



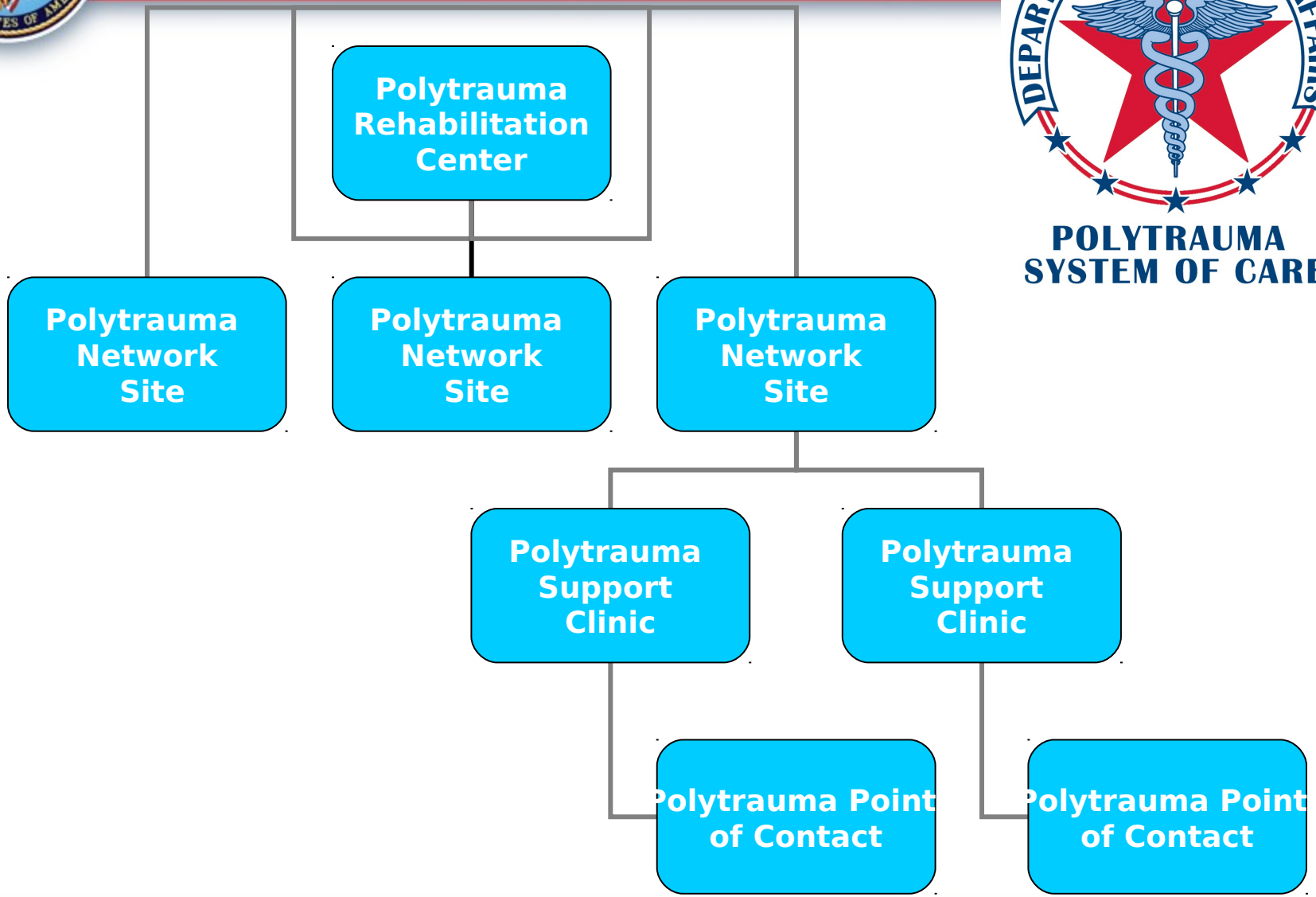
How is the VA Addressing The New Paradigm of Care?

VA Polytrauma System of Care

- Integrated system of care with over 100 specialized rehabilitation sites distributed across the country
- Services delivered by interdisciplinary teams of rehabilitation specialists and medical consultants
- Brain injury drives the care
- Advanced rehabilitation practices and equipment with focus on independence and community re-integration
- Emphasis on care coordination and case management
- Provide life-long care and access to a continuum of services
- Polytrauma Telehealth Network

Integrated System

POLYTRAUMA SYSTEM OF CARE



PSC Components

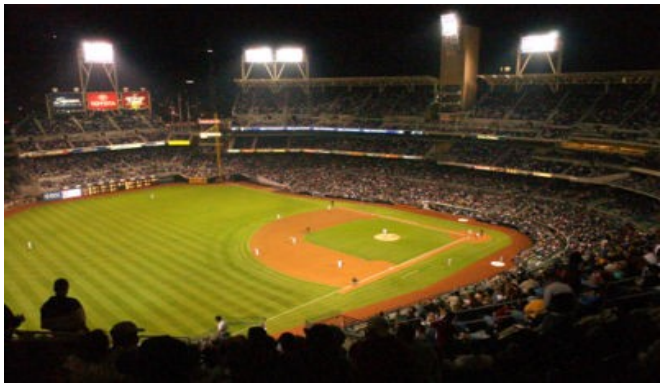
Polytrauma Centers (4)
Regional referral centers

Polytrauma Network Sites (22)
VISN level referral sites

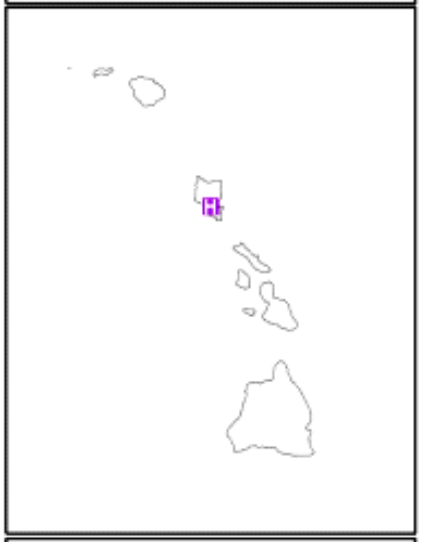
Polytrauma Support Clinics (81)
Facility level teams

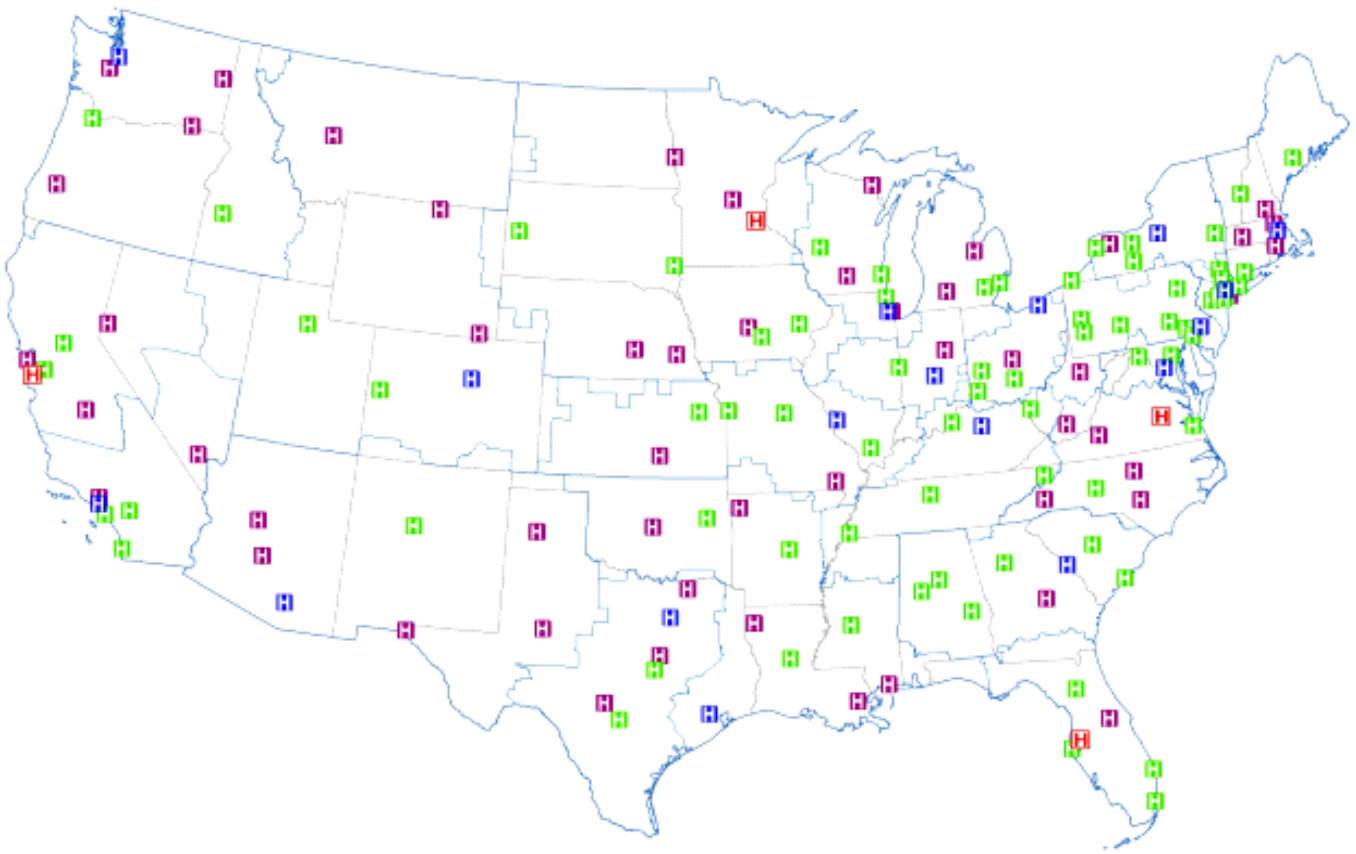
Polytrauma Points of Contact (49)
Referral and care coordination

Goal: Get Home



VHA Polytrauma System of Care, FY-2007





Legend

- Polytrauma Rehabilitation Center
- Polytrauma Network Site
- Polytrauma Support Clinic Team
- Polytrauma Points of Contact

Map Created By: Eric Litt
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Funding Source: HSR&D Service, VHA Office of Research and Development
Project # DHI 06-010-1
Map Creation Date: June 11, 2007
ArcMap 9.2

Polytrauma Rehabilitation Centers

Richmond

Minneapolis

Tampa

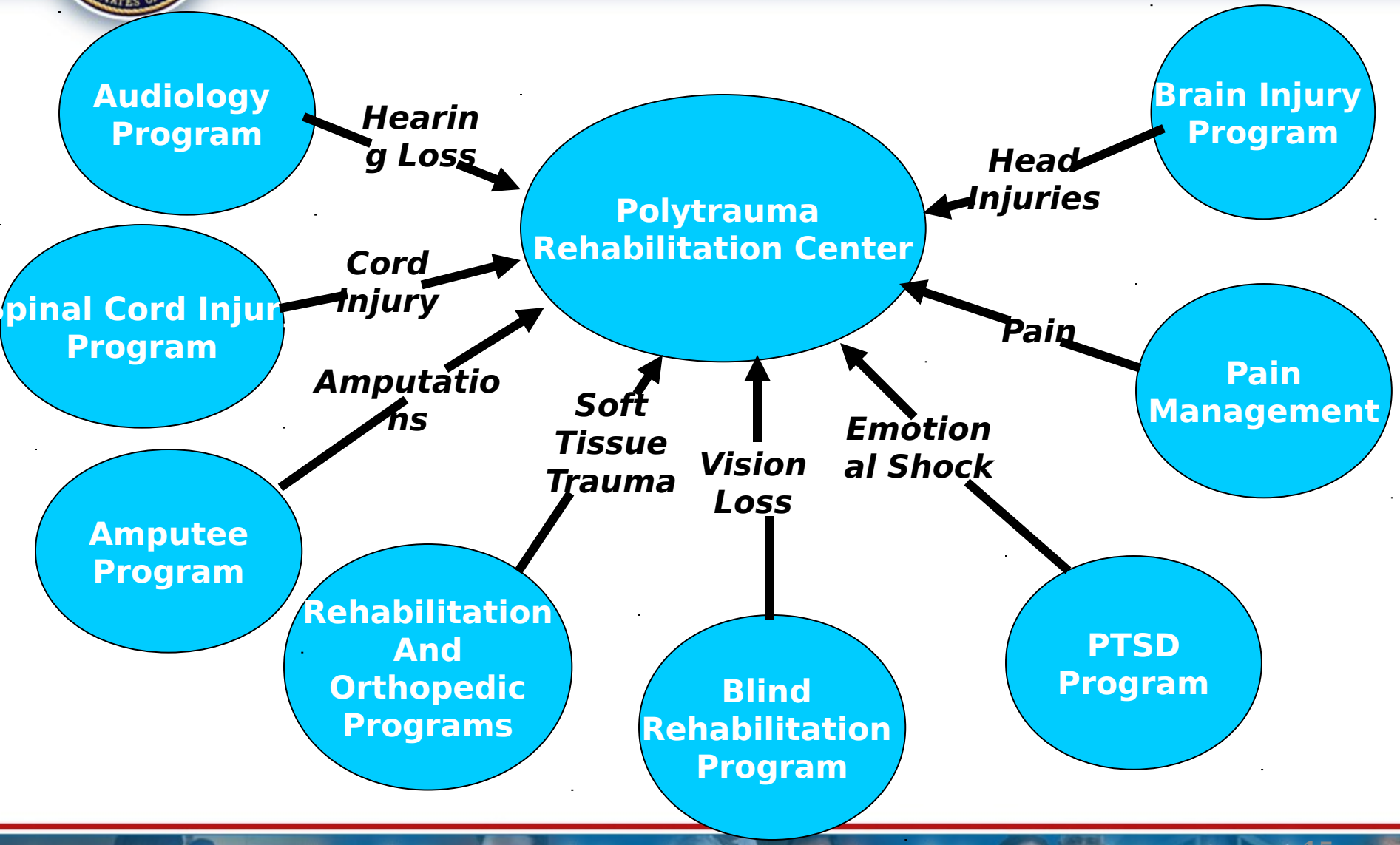
Palo Alto

San Antonio (2012)

Polytrauma Rehabilitation Centers

- Regional referral centers for veterans and active duty service members with TBI and polytrauma
- Patients with high degree of medical complexity and varied patterns of disabling injuries
- Full range of acute comprehensive medical and rehabilitative services
  - Comprehensive acute interdisciplinary inpatient rehabilitation
  - Comprehensive interdisciplinary inpatient evaluations
  - Emerging Consciousness Program
  - Residential Transitional Rehabilitation Program
  - Assistive Technology Labs
- Leadership in education, research, and program development

Provision of Comprehensive Rehabilitation Care



PRC Interdisciplinary Rehabilitation Team

- Physiatrist
- Rehabilitation Nursing
- Speech Language Pathology
- Occupational Therapy
- Physical Therapy
- Therapeutic Recreation Specialist
- Blind Rehabilitation Specialist
- Counseling Psychology
- Neuropsychology
- Family Therapist
- Social Work/Case Manager
- Driver Trainer
- Prosthetist/Orthotist
- Hospitalist
- Intensivist

Team of Specialized Consultants

- Anesthesiology
- Audiology
- Chaplin Services
- Dentistry
- Gastroenterology
- General Surgery
- Infectious Disease
- Medicine
- Neurology
- Neurosurgery
- Nutritionist
- Ophthalmology/Optometry
- Oral and Maxillofacial Surgery
- Orthopedics
- Otolaryngology
- Pharmacy
- Plastic Surgery
- Prosthetics
- Pulmonology
- Radiology
- Urology
- VBA Vocational Specialist

Special Programs at the PRCs

Emerging Consciousness
Transitional Rehabilitation
Assistive Technology
Family Support

Emerging Consciousness Program - Purpose

To provide the necessary interdisciplinary medical, nursing, and rehabilitation program and services to:

1. Optimize long term functional outcomes after severe brain injury
2. Improve responsiveness/ Return to consciousness (RTC)
3. Facilitate advancement to the next phase of rehabilitation care

Emerging Consciousness

Admission Criteria

- Within 12 months of a brain injury leading to ongoing impaired level of consciousness
- RLAS ≤ III

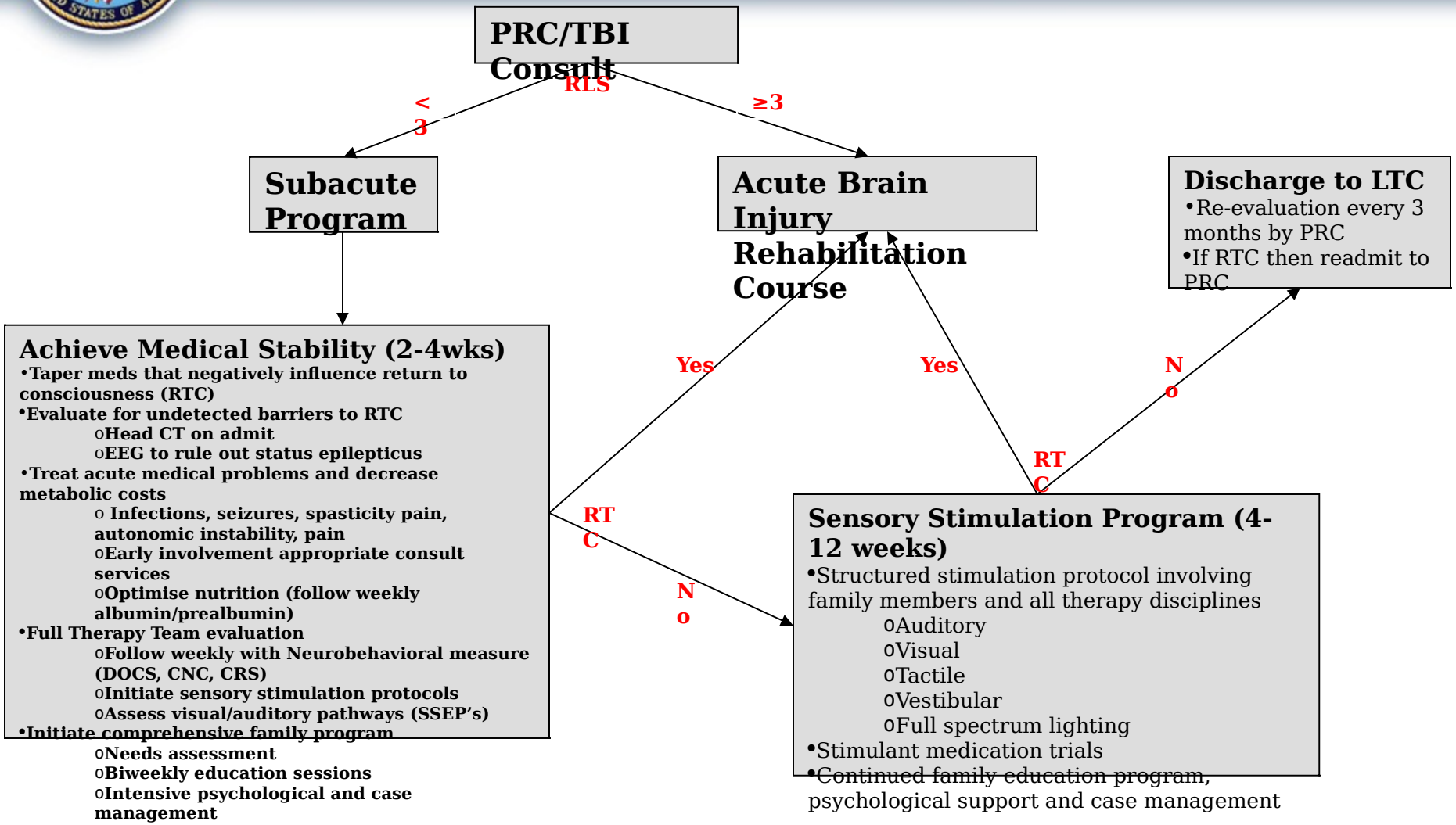
Exclusion Criteria

- Medically unstable to tolerate transfer
- Diminished level of consciousness due to acutely reversible process (e.g., toxic-metabolic encephalopathy, CNS infection)
- Requiring mechanical ventilation
- RLAS ≥ IV

Discharge Criteria

- Ability to participate in an acute rehabilitation program (RLAS IV)
- Stability of Rancho level for 90 days
- Medical instability

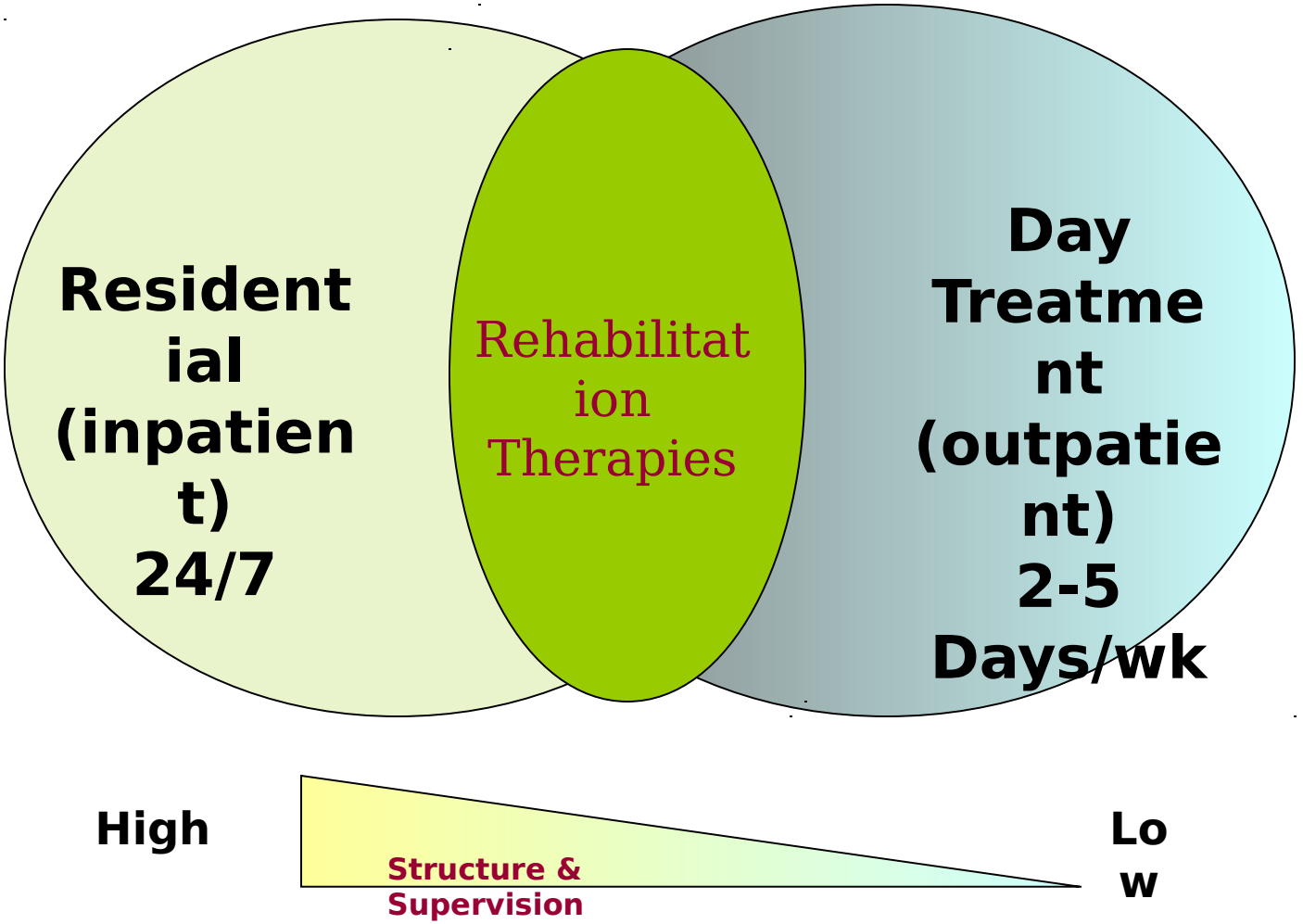
Clinical Pathways



VA Polytrauma Transitional Rehab Programs

- **Why Transitional Rehab**
  - Acute care may be insufficient for maximum benefit from rehabilitation.
  - Large gap between skills taught in most OP clinics and skills needed to live in the community
- **Polytrauma Transitional Rehab Programs are appropriate for**
  - Pts who need intensive training to acquire community living skills
  - Pts who cannot live at home or do not have access to post-acute day programs in their communities.
- **PTRP Programs**
  - Provide a progressive return to independent living through a structured program focused on restoring home, community, leisure, psychosocial and vocational skills in a controlled, therapeutic setting
  - Approximate the community setting, while still providing necessary control of the environmental stimuli, as needed. A gradual increase of these stimuli with concomitant reintegration into the community is the key to long-term outcomes

Polytrauma Transitional Rehabilitation Programs (PTRP)



PTRP Referral Criteria for Inpatient (Residential)

- Have impairments as a result of brain injury or polytrauma that impede community re-integration;
- May need supervision or cueing with basic activities of daily living (ADLs) and with administering medications;
- Are medically stable;
- Do not exhibit behaviors posing risk/safety threat to self or others or exhibit behaviors that require alternate mental health services;
- Have the potential to successfully participate in groups and to benefit from formal therapy;
- Have needs which are determined to benefit from a 24 hours per day, 7 days per week structured and supportive environment;
- Are willing to participate in the program and to adhere to facility rules; and
- Do not require a locked unit or 1:1 close observation for the majority of the day such as a 1:1 sitter or electronic monitor.

PTRP Environment of Care

Programming Includes

- **Living skills**
  - Parenting, house maintenance, kitchen management, money management,
- **Pragmatic social skills**
- **Problem solving**
  - Interpersonal and programmatic issues
    - emotional disregulation
- **Cognitive Rehabilitation**
- **Adjustment/coping**
- **Community outing**
- **Health and wellness**
  - Military base gym, Nutrition, stress management
- **1:1 therapy**
- **Enhanced community reintegration**
  - Community IADL's
- **Community Re-entry**
  - College prep
  - Volunteerism

Career exploration

-Job skills – resumes and interviews

-CWT job trials

-Competitive employment

Assistive Technology Labs

- **VA has recently entered a 3 year contract with the University of Pittsburgh's Center for Assistive Technology**
  - **Develop Design Plan for AT Labs**
  - **Develop Educational Curriculum for the Teams**
  - **Develop Standardized Patient Evaluation Procedures for prescribing AT**
  - **Guidelines for assessing new technologies**
  - **Develop an Outcome Database**

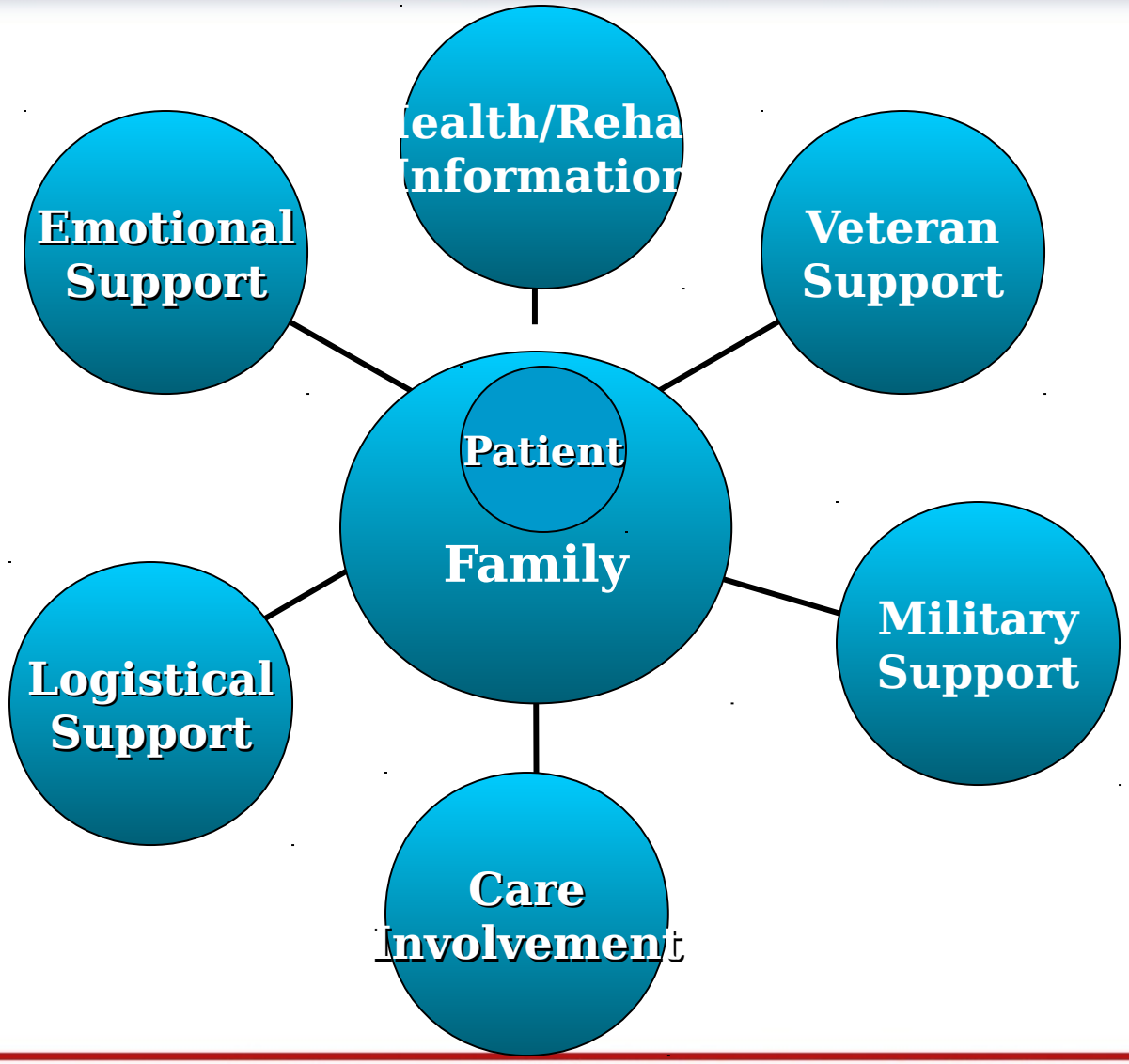
Components of Assistiv Technology Laboratory

- Wheeled Mobility & Seating
- Communication, Cognitive Orthotics & Learning Technologies
- Computer Access & EADL's
- Adaptive Driving & Vehicle Modifications
- Recreation & Sports
- Environmental Accessibility

Family Support

- Transition from MTF to VA
- Logistical and Subsistence Needs
- Family Stress
- Military Identity
- Family Friendly Environment
- Prolonged Recovery and Lifelong Impairments
- Meaningful Activities

Family Centered Care



Family-Centered Programming

- Health information
  - **Family needs assessment (family dynamic, values, coping strengths)**
  - **Promote understanding of the injury and the rehabilitation and recovery process**

- Emotional support
  - **Psychological counseling (skills training, stress management)**
  - **Encourage self care, respite**
  - **Chaplaincy**

Family-Centered Programming

- Military support/liaison
  - Service specific “Espirit de Corps"
  - Personnel issues
  - Benefits (e.g., non-medical attendant orders)
- Veteran support
  - VBA representative (entitlements, eligibility)
  - Financial support (C&P)
  - Vocational Rehabilitation & Employment Services (VR&E)

Family Centered Programming

- Logistical support
  - **Housing**
  - **Transportation**
  - **Nutrition**
- Involvement in care
  - **Training for participation in rehabilitation programming**
  - **Incorporate observations**
  - **Participate in goal setting**

Beyond the Polytrauma Centers

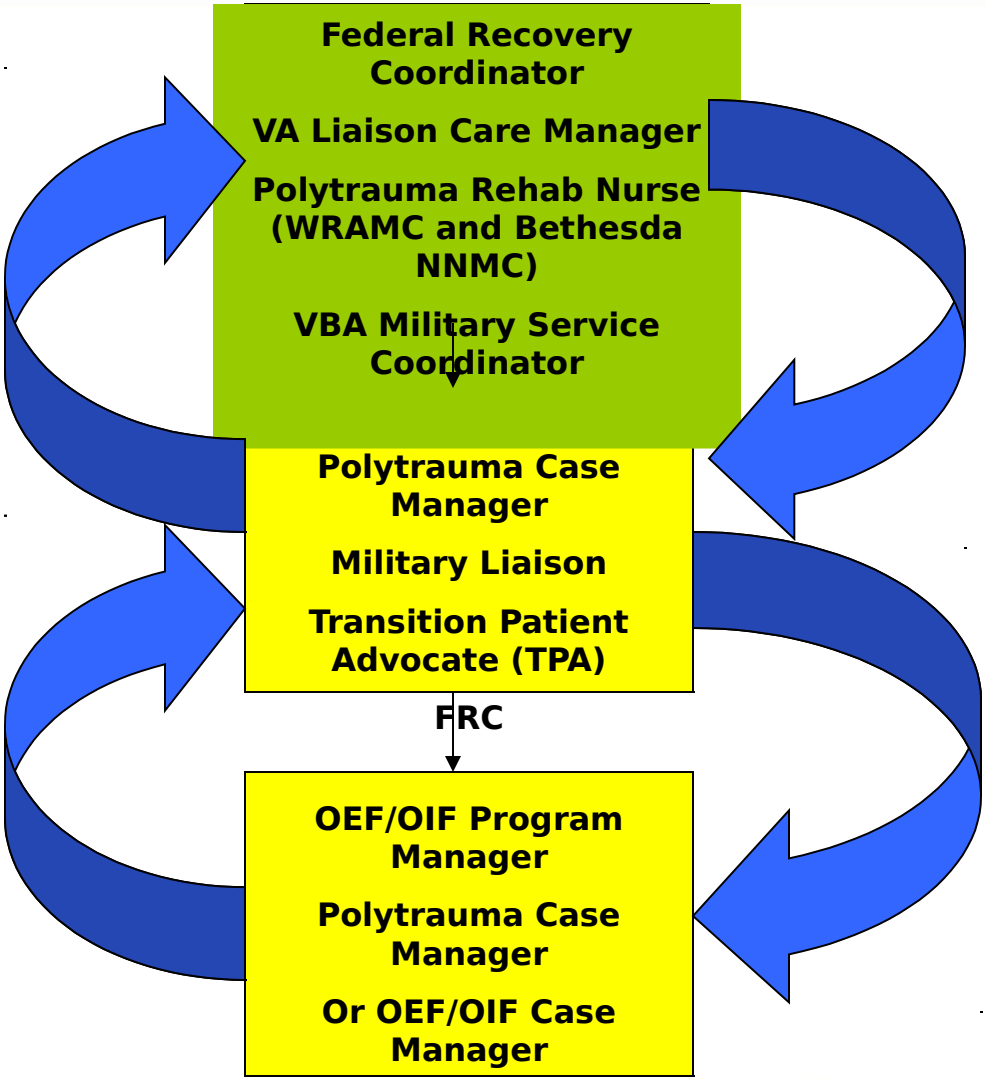
- **Sequelae are life long/require special expertise**
- **Emerging complications**
- **Outreach to new patients entering the system**
- **Changes in developmental stage**
- **Changes in social situation**
- **New treatments or technology**
- **Tune-ups**
- **Support and connectivity**
- **Aging with disability**

VA Polytrauma Care Management

Military Treatment Facility

VA Polytrauma Center

PNS/PSCT/ PPOC VA



Polytrauma RN and VA Liaison are the Conduits

PRC and PNS Case Manager is the Conduit

Polytrauma Case Management and Care Coordination

- Clinical Care Management - Certified Rehabilitation RN
- Psychosocial Care Management - Licensed Clinical Social Worker
- Care Management is provided across all episodes and sites of care and includes:
  - Coordination of services
  - Evaluation of ongoing rehabilitation and psychosocial needs
  - Family education and support services
  - Assistance with successful community re-integration
- Veterans receive a “warm hand-off” to the polytrauma social work and nurse care manager at the next component of care as patients move through the Polytrauma System of Care

Polytrauma Case Management Model

- Intensive Case Management daily or weekly contact whenever there is transition of care and/or significant change in the patient's psychosocial, functional, medical, or mental health status
- Progressive Case Management monthly contact to ensure the support system is in place. The patient is medically stable but still needs ongoing intervention for management of the plan of care and psychosocial issues
- Supportive Case Management quarterly contact for active duty service members in medical hold with treatment being provided directly by the MTF or when medical and psychosocial issues are stable and the patient is well established in the system of care
- Lifetime Case Management (annually) ensures access to and coordination of care at the local VA medical center

Polytrauma Telehealth Network

- Links Polytrauma sites within and across regions
- Provide videoconferencing educational capabilities
- Facilitate discharge planning and coordination of care
- Remote provider-to-provider consultation
- Remote evaluation for specialized services
- Education for providers and families

Polytrauma Network Sites

- One PNS located in each VISN (+ San Juan)
- Post-acute Rehabilitation Services
  - **CARF Accredited Inpatient Units**
  - **Full Range of Outpatient Rehabilitation Services**
  - **Onsite specialty care consultants (vision, ortho, neurology, audiology)**
- IDT trained in TBI and Polytrauma
- Complete comprehensive TBI evaluations following positive TBI Screen
- Patient and Family Education and Support
- Evaluations for DME and Assistive Technology
- Regular follow-up care, check-ups
- Coordinate services between VHA (local VA, PSCT), VBA, DOD, private sector (fee-basis)
- Consultants to their VISN

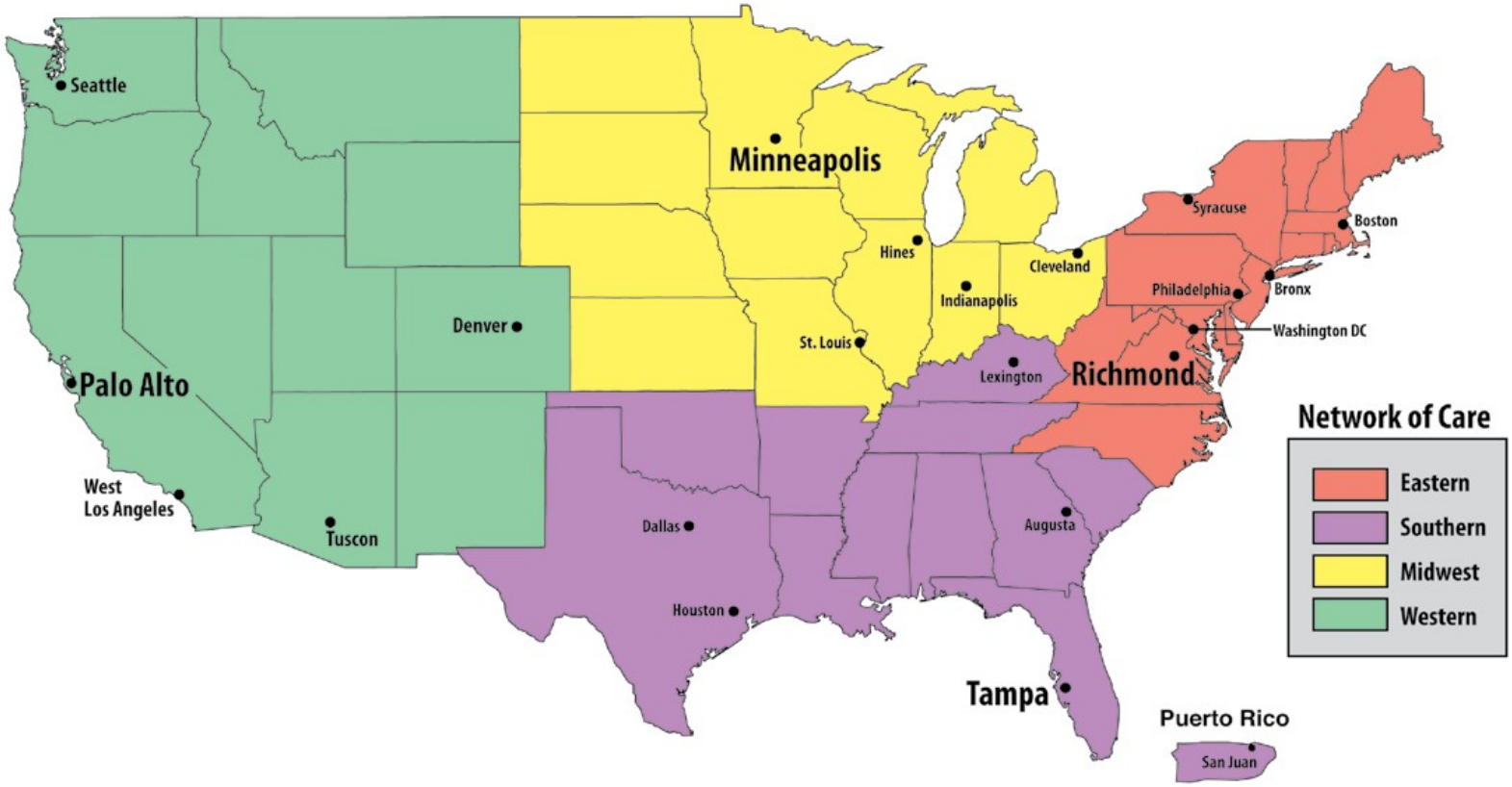
PNS Interdisciplinary Team

- Physiatry
- Certified Rehabilitation Registered Nurse
- Psychology
- Social Work Case Manager
- Occupational Therapy
- Physical Therapy
- Speech Language Therapy
- Prosthetist/Orthotist
- Blind Rehabilitation Outpatient Specialist
- Driver Training

22 Polytrauma Network Sites

- Boston
- Syracuse
- Bronx
- Philadelphia
- Washington D.C.
- Richmond
- Augusta
- Tampa
- San Juan (new)
- Lexington
- Cleveland
- Indianapolis
- Hines
- St. Louis
- Houston
- Dallas
- Tucson
- Denver
- Seattle
- Palo Alto
- West Los Angeles
- Minneapolis

Regional Centers and Network Sites



Polytrauma Support Clinic Teams

- Located at 81 VAMCs across VHA
- Provide a Full Range of Outpatient Rehabilitation Services
- Complete comprehensive TBI evaluations following positive TBI Screen
- Dedicated outpatient interdisciplinary teams with training in TBI and Polytrauma including:
  - Physician
  - Nurse
  - Social Worker
  - PT
  - OT
  - SLP
  - Psychologist
  - Other specialists as needed

Role of the PSCT in the Continuum of Care

- **Manage the care of patients with a stable treatment plan**
- **Review and update treatment plan**
- **Promote continued functional improvement and prevent decline through regular, scheduled follow up**
- **Proactively monitor for new needs due to change in developmental stage, social situation, or aging**
- **Implement new technology or treatments**
- **Respond to emergent problems**
- **Provide support and connectivity for patients and families**
- **Consult with their VISN PNS**

Polytrauma Point of Contact

- **Located in 49 VA Medical Centers**
- **Designated POC for TBI/Polytrauma**
- **Refer to Appropriate Component in the Polytrauma System of Care**
- **Variability in rehab services available**
- **Coordinate services provided within community**
- **Consult with PNS and/or PSCT for Follow-up**

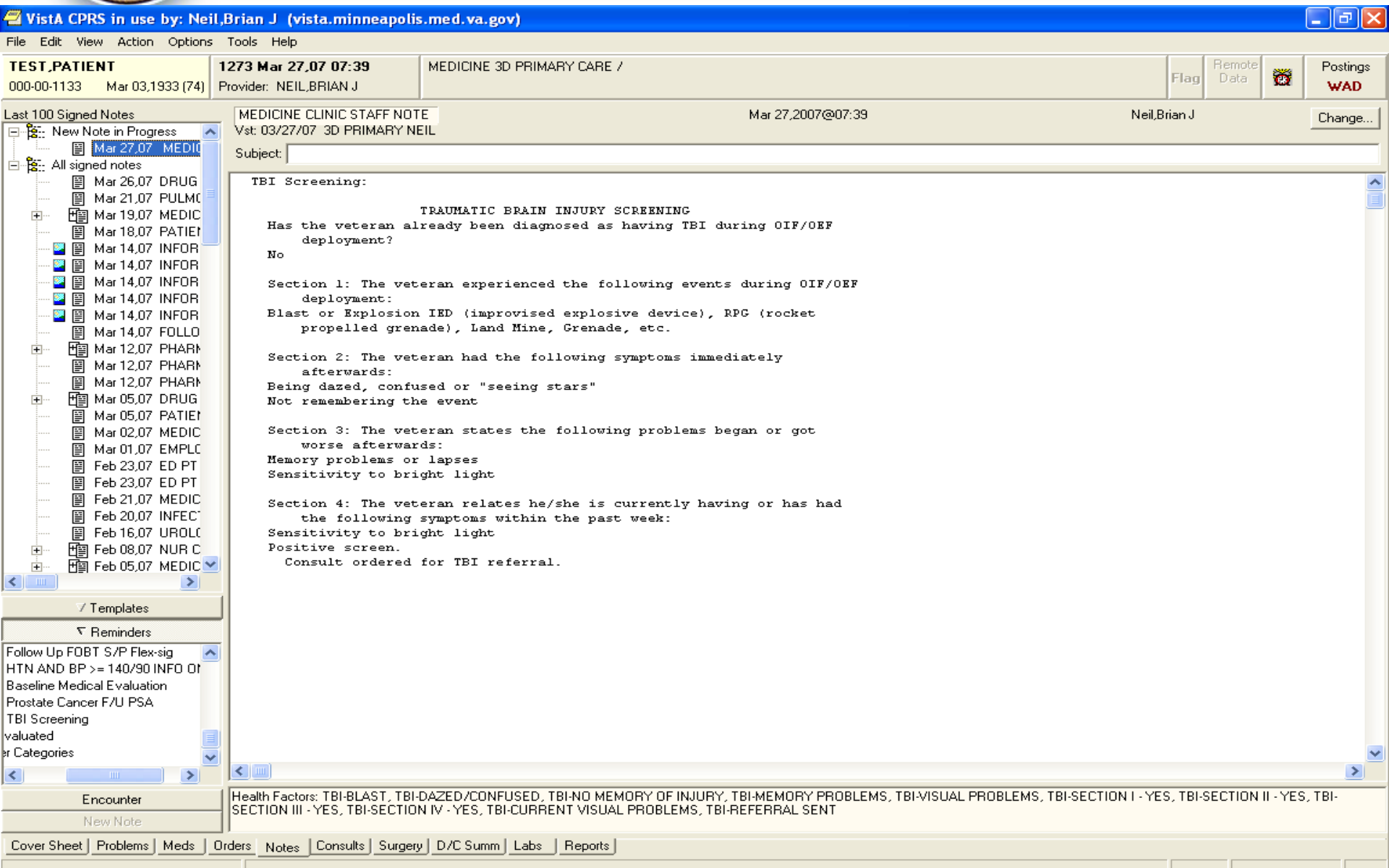
Mandatory TBI Screening

- Implemented in April 2007
  - **OEF/OIF Veterans**
- Utilizes computerized “Clinical Reminder” incorporated into Electronic Medical Record
- Clinical Reminder
  - Identifies who needs screening
  - Presents screening tool to provider
  - Enters results into progress note and into electronic health record
- Results are captured, reported and monitored as national VA performance indicator

TBI Screening Tool

- Screen has four sequential sections:
  - *Events*
  - *Immediate* symptoms following events
  - *New or Worsening* symptoms following events
  - *Current* symptoms
- ***All four responses yes*** = requires further evaluation
- Screen does ***NOT*** diagnose TBI, but refers for complete further evaluation for ***possible*** TBI

Data Automatically Entered into CPRS



Comprehensive TBI Evaluation

Following a positive TBI screen, veteran is offered a

comprehensive evaluation:

- **Face-to-Face Evaluation**
- **History of patient's present illness/symptoms**
- **Focused review of body systems**
- **Targeted physical exam**
- **Administration of the "Neurobehavioral Symptom Inventory (NSI)"**
- **Confirming diagnosis of TBI**
- **Interdisciplinary treatment plan**
- **Follow up**

TBI Screening Results

14 April 2007 – 31 January 2009

Primary Screen

270,022 Total OEF/OIF Veterans Screened

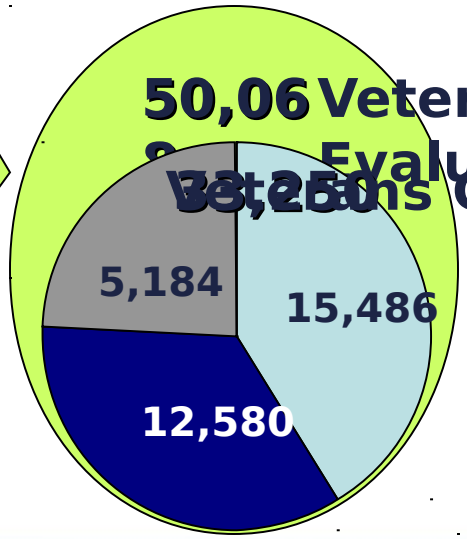
7,725 Veterans with Self Reported Prior TBI

53,953 Veterans Requiring Further Evaluation

Follow-up Evaluation

50,06[illegible] Veterans Consenting to Further Evaluation

38,250 Veterans Completed Comprehensive Evalua



- TBI Confirmed
- TBI Ruled Out
- Diagnosis Pending

Individualized Rehabilitation and Community Reintegration Care Plan

2008 National Defense Authorization Act, directs the Secretary of Veterans Affairs, for each veteran or member of the Armed Forces who receives inpatient or outpatient rehabilitation care from the VA for a TBI, to:

1. **Develop an individualized plan for the rehabilitation of such individual and their reintegration into the community;**
2. **Provide the plan to such individual**
3. **Base the plan upon the physical, cognitive, vocational, and neuropsychological and social impairments of the individual, as well as their family education and support needs after discharge from inpatient care.**

Rehab Plan (con't):

4. **Designate a case manager for each individual; ensure that such case manager has appropriate skills;**
5. **Involve each individual and their family or guardian in the development of their rehabilitation and reintegration plan;**
6. **Review the effectiveness of each plan.**

Action: Implemented a standardized national CPRS

Template across all VHA facilities in March 2009

Joint VA/DoD CPG

Clinical Practice Guideline - SUMMARY

Management of Concussion/mild Traumatic Brain Injury

March, 2009

VA/DoD Evidence Based Practice


“To Care For Him Who Shall Have Borne the Battle, And For His Widow and Orphan”
Abraham Lincoln